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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,641	08/07/2003	Hironori Sahara	030943	8804

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EXAMINER

HARRINGTON, ALICIA M

ART UNIT PAPER NUMBER

2873

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8m

<b>Office Action Summary</b>	<b>Application No.</b> 10/635,641	<b>Applicant(s)</b> SAHARA ET AL.	
	<b>Examiner</b> Alicia M. Harrington	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-3 and 5-6 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1- 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin et al (US 4,733,246) in view of Withoos (US 4,171,563).

Regarding claims 1 and 5, Rubin discloses an ultra-lightweight electromagnetic wave concentrator comprising a thin film curved body (12/14; col. 2, lines 35-45) that has a reflective surface that assume the surface shape that is part of a paraboloid of revolution (see figure 3) or of a curved surface modeling same, wherein a reinforcing structure (#18 or #30)

is formed at least in the peripheral zone of said reflective surface (30-see col. 2, lines 57-65) to increase the rigidity of the thin-film curved body. Rubin fails to specifically disclose the thin film is molded by the effect of stress relaxation and the support/reinforcing structure is a grooved structured.

Withoos teaches supporting a reflector with a structure that is recessed or grooved (see col. 3, lines 44-55). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reinforcing groove structure in order to support the reflective structure while not adding to the deformation of the curved surface of the reflector and this type of support is known in the prior art. Additionally, product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)-see MPEP 2113. Thus, it would have been obvious to one ordinary skill in the art at the time the invention was made to molding by stress relaxation process for making a reflector, since stress relaxation is process for applying thin-films is known in the art and provides a surface with out cracks and blemishes (evenly distributed-easily molded).

Regarding claim 2, Rubin discloses the an ultra-lightweight electromagnetic wave concentrator according to claim 1, wherein said reinforcing structure

(#18 or #30) is molded by said effect of stress relaxation simultaneously with the molding of the thin film materials. Rubin disclose the wave concentrator is made at the same time the supporting structure (for example #18) is made using an adhesive to bring them together (see col. 2, lines 35-47). Withoos also processes the reflector and grooved support in a one step process (see col. 2, lines 20-31).

Regarding claim 3, Rubin discloses an ultra-lightweight electromagnetic wave concentrator according to claim 1, wherein said reinforcing structure is molded in said reflective surface- element #18 is adhered/molded to the back of the surface of the reflector. The other piece (#30) of the support surface is adhered/molded by an adhesive to surface #18.

Regarding claim 4, Rubin fails to specifically discloses the an ultra-lightweight electromagnetic wave concentrator according to claim 3, wherein said reinforcing structure is formed in radially extending linear configuration or ring like concentric configuration.

In the same field of endeavor, Withoos discloses a parabolic reflector/concentration where the reinforcing structure (9 or 65) and reflective structure are formed in a radially extending linear configuration. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a linear extending support structure reflective, as taught by Withoos, since it is known in the art and it still provides a light weight parabolic concentrator with ease of assembly.

Regarding claim 6, Rubin discloses the an ultra-lightweight electromagnetic wave concentrator according to claim 1, wherein a reinforcing agent is coated or arranged over the entire or part of said reinforcing structure, or

over the entire or part of the back side of said reflective surface (the adhesive used to hold the reinforcing structure together and used to hold the reinforcing structure to the reflector).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Akeley (US 1,382,261) discloses a composite reflector and method of making the same.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571 272 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia M Harrington  
Examiner  
Art Unit 2873

  
AMH

  
Georgia Epps  
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